



The SELA Report

Southeast Louisiana Flood Control Project



**US Army Corps
of Engineers**
New Orleans District

Spring 2001 Number 6

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Project Status: SELA Forges Ahead

The Southeast Louisiana Flood Control project continues to enhance rainwater diversion in Jefferson, Orleans and St. Tammany parishes. The immense urban civil works project currently includes 59

authorized SELA contracts, with a total construction cost of \$537 million.

Currently authorized SELA projects are listed below and on the following page, with references to the contract awards and

construction status. Contract amounts do not include additional costs such as land, easements, rights-of-way, relocation, supervision and administration.◆

St. Tammany Parish Projects	Scheduled or Actual Award	Contract Amount (\$1,000)
Slidell Area Plan	Not Yet Scheduled	\$23,275
Mile Branch Improvements	Not Yet Scheduled	7,653
Structure Raising - Bayou Chinchuba/Abita/Lacombe	Not Yet Scheduled	8,450
Schneider Canal	Not Yet Scheduled	32,105
Mandeville Hurricane Protection	Not Yet Scheduled	21,465

Orleans Parish Projects	Scheduled or Actual Award	Contract Amount (\$1,000)	Project Status
Broad St. Pump Station No. 1	1 Jul 97	\$5,700	Complete
Broad St. Pump Station No. 2	17 Dec 98	12,226	Under Construction
Napoleon Ave. Canal	8 Sep 99	19,445	Under Construction
Dwyer Road Canal	30 Nov 00	5,976	Awaiting Award
Dwyer Road Pump Station	3 Nov 00	13,618	Under Construction
Hollygrove Drainage Improvement No. 1	4 Aug 00	13,920	Under Construction
Claiborne - Nashville to Jena	7 Apr 00	9,535	Under Construction
Claiborne - Jena to Louisiana	24 Mar 00	13,220	Under Construction
Hollygrove Drainage Improvement No. 2	27 Jul 00	14,299	Under Construction
Pritchard St. Pump Station	16 Dec 00	3,300	Advertised
Dwyer Road Intake	16 Oct 01	10,000	Under Design
Palmetto Canal Relocations	To be constructed by New Orleans Sewerage & Water Board		

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The SELA Report is published twice a year by the U.S. Army Corps of Engineers to communicate news and issues of interest related to urban flood control in southeast Louisiana.

SELA is a joint effort of the U.S. Army Corps of Engineers and Jefferson, Orleans and St. Tammany parishes to reduce rainfall flooding. The program uses federal and locally-matched funds.

Please address all questions, comments and suggestions to the address at right.

For information from the Sewerage and Water Board of New Orleans, visit their Web site at: <http://swbnola.org/index.html>, or e-mail: wolf@swbno.org.

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Jefferson Parish

Jefferson Parish Projects	Scheduled or Actual Award Contract Amount (\$1,000)	Project Status	
Ave. D Canal	20 Mar 97	\$1,860	Complete
Suburban Canal - I-10 to Veterans	16 Apr 97	5,041	Complete
Canal No. 3 - I-10 to Elmwood Canal	20 Aug 97	9,058	Complete
Pump Station Equipment	20 Feb 98	18,129	Complete
Gardere Canal - Phase 1	31 Mar 98	3,454	Complete
Terry Parkway Canal	31 Mar 98	6,046	Complete
Suburban Canal - W Esplanade to Pump Station No. 2	17 Apr 98	2,761	Complete
Keyhole Canal	23 Apr 98	1,287	Complete
Elmwood Canal- W Esplanade to Pump Station No. 3	21 May 98	4,446	Complete
Elmwood Canal - Canal No. 3 to W Esplanade	1 Jun 98	4,913	Complete
Suburban Canal - Veterans to W Esplanade	13 Jul 98	9,866	Under Construction
Canal No. 3 - I-10 to Soniat Canal	10 Aug 98	10,188	Under Construction
Railroad Canal	2 Jun 99	4,275	Under Construction
Woodmere & Sunnymede Canals	16 Jun 99	4,949	Under Construction
Pump Station No. 3	19 Nov 99	15,079	Under Construction
Duges Canal	3 Dec 99	3,636	Under Construction
Grand Cross Canal	6 Dec 99	764	Complete
Pump Station No. 2	14 Dec 99	17,688	Under Construction
Whitney Barataria Pump Station	15 Dec 99	18,502	Under Construction
Cousins Canal - Phase 1	22 Dec 99	3,657	Under Construction
Brown Ave. Canal	20 Jan 00	2,000	Under Construction
Suburban Canal @ W Esplanade	20 Jan 00	4,140	Under Construction
Keyhole Canal - Phase II	19 May 00	2,074	Under Construction
Swift Canal & Canal A & HPP Levee Stockpile	23 May 00	10,074	Under Construction
Pipeline Canal & Estell Fronting Protection (HPP)	13 Jun 00	1,713	Under Construction
Soniat Canal - Veterans to W Napoleon	25 Jul 00	14,426	Under Construction
Grand Cross Canal @ Lapalco	21 Sep 00	500	Under Design
Elmwood Canal @ Vintage	2 Nov 00	1,876	Under Construction
Suburban Canal @ Veterans	15 Dec 00	8,000	Under Construction
Suburban Canal @ I-10	30 Dec 00	5,700	Advertised
Whitney Canal	15 Apr 01	1,130	Under Design
Gardere Canal - Phase 2	6 Sep 01	10,000	Awaiting Right of Way
Two-Mile Canal - Phase 1	30 Apr 01	11,400	Under Design
First Avenue Canal	28 Feb 01		Currently Being Constructed by West Jefferson Levee District
Soniat Canal - Veterans to Canal No. 3	14 Mar 01	8,000	Under Design
Mayronne Canal	29 May 01	1,750	Awaiting Right of Way
Cousins Pump Station Expansion	1 Apr 01	5,500	Under Design
Justice & Oil Company Canals	18 Jun 01	4,500	Awaiting Right of Way
Soniat Canal - W Napoleon to Lynette	1 Oct 01	8,600	Under Design
Soniat Canal - W Metairie to Lynette	1 Oct 01	9,900	Under Design
Elmwood Canal @ Kawanee	1 Oct 01	500	Under Design
Cousins Canal - Phase 2	1 Oct 01	2,400	Under Design
Two Mile - Phase 2 - Allo To Barataria	1 Oct 01	1,500	Under Design
Westminster/Lincolnshire Pump Station Backup Generators	1 Oct 01	No Estimate Yet	Under Design
Westwego Pump Station Backup Generators	1 Oct 01	No Estimate Yet	Under Design
Elmwood Canal @ W. Esplanade	14 Oct 01	1,500	Under Design
Soniat Canal @ Lynette			Currently Being Constructed by Parish & State

SELA Expands Battle Against Urban Flooding

Since construction on SELA projects started in 1997, the congressionally authorized program for construction in Orleans, Jefferson and St. Tammany parishes has grown from \$407 million to \$605 million.

At the present time, authorized work, either now under construction or planned for construction, totals \$208 million in Orleans Parish, \$324 million in Jefferson Parish, and \$73/91 million in St. Tammany Parish.

On top of this massive effort, however, lies still more work in the pipeline to improve urban flood drainage in the three parishes. With a total estimated federal cost ranging from \$265 million to \$291 million, eight additional projects are nearing final evaluation for possible construction.

Jefferson Parish

Pump to the River Plan (East Bank Basin)

Water diverted from the upstream end of the Soniat Canal through a new 1,200-cfs pump station will be pushed south and discharged into the Mississippi River. The approximate cost is \$55 million, and the estimated issue date for the draft report is April 2001.

Hoey's Plan (East Bank Basin)

This plan, with a cost estimate of \$20 million, considers improvements to the Hoey's and the Montecello canals as well as the possible construction of a new "Hoey's Cutoff" canal. It is anticipated that the draft report will be issued in September 2001.

East of Harvey Canal Plan (East of Harvey Canal Basin)

With a cost estimate of \$50 million, this plan calls for additional improvements to Industry, Trapp and Murphey canals on the West Bank of Jefferson Parish and proposes that the installation of a third pump in the new Whitney Barataria Pump Station meets federal justification criteria. The pump was installed by Jefferson Parish as a betterment, and the justification will allow federal reimbursement for parish costs related to the project. May 2001 is the estimated issue date for the draft report.

Cataouatche Plan (West of Harvey Canal Basin)

The Avondale area, in the western portion of Jefferson parish, would benefit from improvements to the rainfall drainage system in this \$20 million construction plan. The expected draft report is due in mid to late summer of 2002.

Orleans Parish

Outfall Canal Area Plan (West of Inner Harbor Navigation Channel Basin)

Proposing two new pump stations on Harrison Avenue and Robert E. Lee Boulevard, as well as improvements to the Orleans Avenue Canal and Pump Station No. 7, this plan has an estimated cost of \$38 million. Engineers anticipate

that the draft report, with an estimated issue date of April 2001, will demonstrate that the criteria necessary for federal justification have been met.

Peoples Area Plan (West of Inner Harbor Navigation Canal Basin)

Modifying the original plan features with additional improvements to the Florida Avenue Canal, this substitute

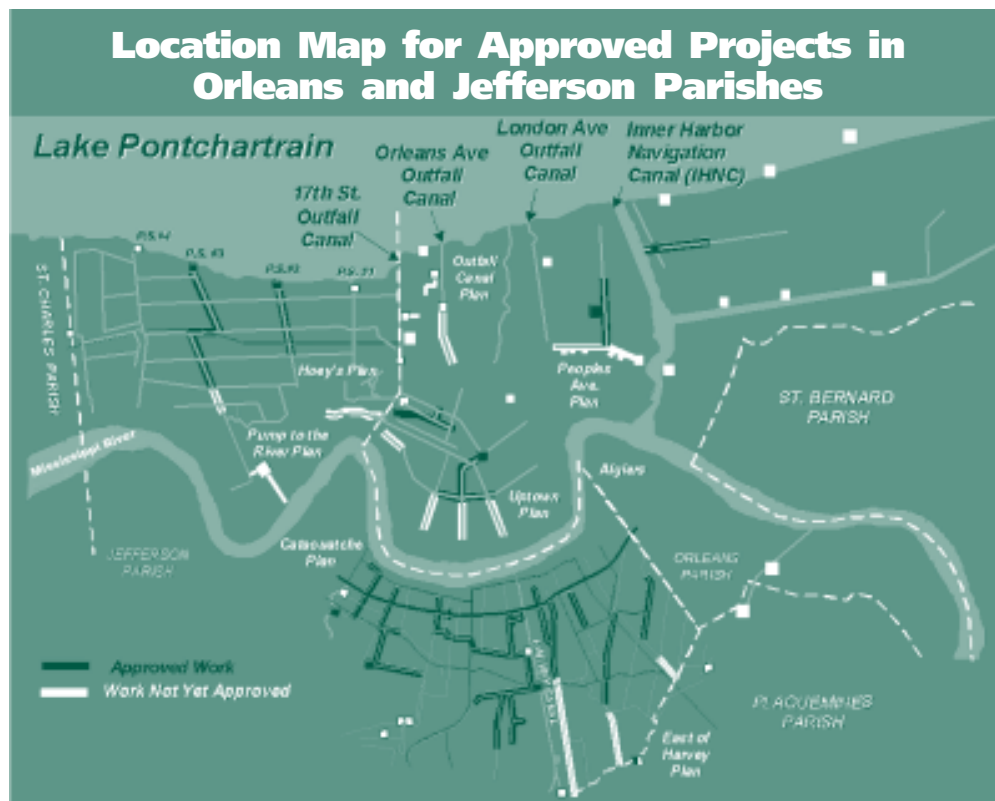
plan now offers higher net benefits by serving a larger area. With a cost increase of \$32 million over the original plan, the estimated cost is now \$60 million. The anticipated issue date for the draft report is February 2001.

Uptown Area Plan (West of Inner Harbor Navigation Channel Basin)

This extension of the approved plan includes improvements to the Jefferson, Napoleon, Louisiana and Claiborne canals at an estimated cost of \$109 million. The local sponsor, the Sewerage and Water Board of New Orleans, is funding a portion of the Claiborne Canal improvement, currently under construction, as a betterment. This means that, assuming the plan meets the criteria necessary for federal justification, the sponsor will receive federal reimbursement for its investment. The issue date of the draft report is estimated to be March 2001.

Algiers Plan (Algiers Basin)

With a cost estimate of \$50 million to \$76 million, this plan will, through drainage improvement, provide flood relief to the Algiers area on the West Bank of Orleans Parish. The estimated issue date of the draft report is September 2001. ♦



This map shows approved projects as well as those still waiting approval.

Cofferdams:

From Wet to Dry and Back Again

Construction on canals is about coming full circle from wet to dry and back again. So before work can begin on a canal that is carrying water, engineers must dewater the site by using a temporary structure known as a cofferdam. Composed of clay and sand, these small dams are built within the canal, one at each end of the intended construction area. Large pumps then remove the water from between the dams, resulting in a reasonably dry work site.



The uncomplicated design of the cofferdams allows them to be quickly and easily constructed. Clay is used as the dam's foundation to create a four- to five-foot high wall across the canal. Sand is then poured over the clay, blocking the canal and completing the dam. The sand is a crucial safety feature because it can be removed promptly if full use of the canal is required during a flood. Simply cutting a notch in the top of the dam forms a breach that allows water



behind the dam to begin flowing through the sand. The water flow increases in velocity as it carries the sand away—rapidly restoring the canal to its full water-carrying capacity.◆

Sheet Piling:

Building Walls of Steel

In a process common to many SELA projects, long, narrow steel plates, called sheet piles, are linked together and driven into the earth to form corrugated metal walls.

Placed during the initial stages of canal construction, the sheet piling walls provide both a stable canal bank and a rigid background for the attachment of

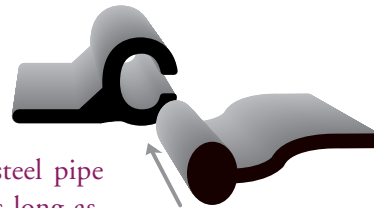


Sheet piling that will form the temporary walls of a canal.

struts and concrete forms. The struts, often built using a steel pipe that may be as long as 90 feet, span the canal from wall to wall, providing support and stability to the forms and the sheet piling.

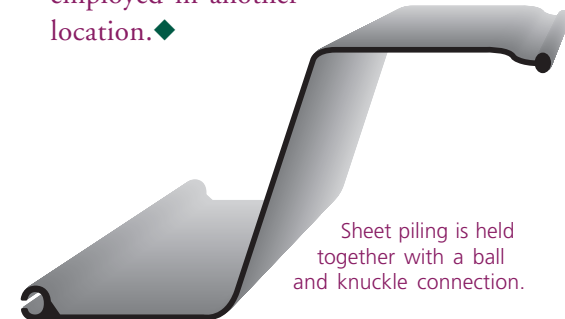
While the piles forming these walls are commonly 20 to 30 feet in length, they may occasionally be as long as 60 feet. Linking the three-eighths-inch-thick, 18-inch-wide steel plates together in long stretches involves what engineers call a “hot-rolled, ball and knuckle” connection, as seen in the illustrations. This connection runs the length of the steel pile and allows the plates to be firmly locked in place, forming a nearly watertight seal.

Additionally, the linked sheet piles



provide the benefit of minimizing ground-water loss. Driven as deep as 50 feet into the ground, the steel walls interrupt subterranean layers of sand that could otherwise carry ground water into a canal.

Usually, the sheet piling will remain in place until a concrete wall is completed or the slope of a bank is reformed. Once the piling has served its purpose, the steel plates are removed and re-employed in another location. ♦



Struts and Walers:

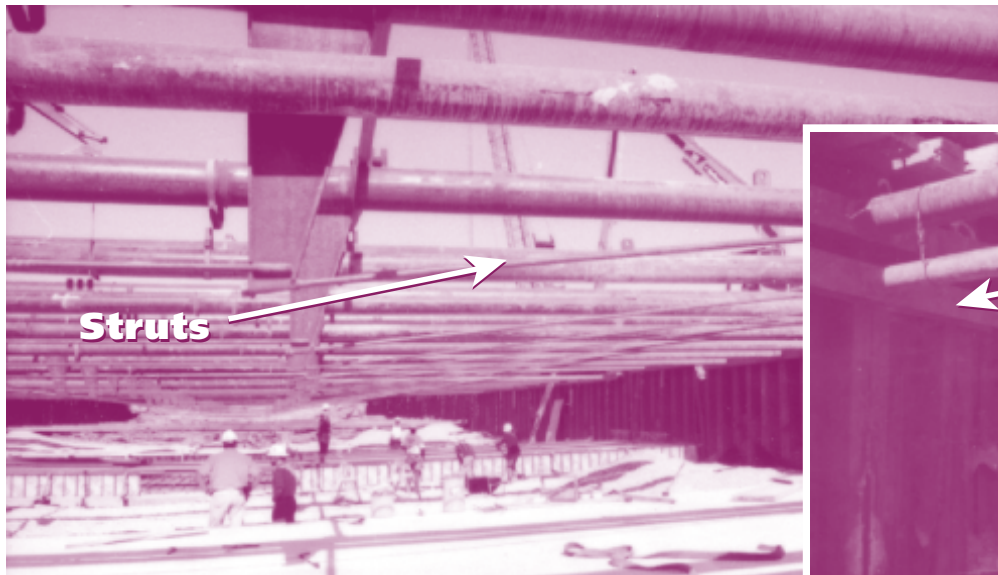
This Jungle Gym Isn't Child's Play

A canal under construction may have the look of a jungle gym for giants, but in fact, the pipes aligned in rows and spanning the width of the canal are far from child's play.

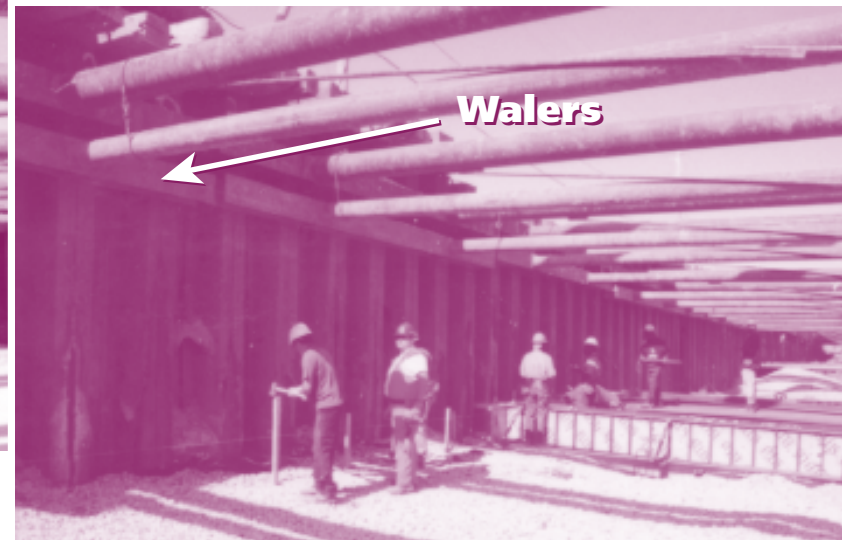
Up to 2.5 feet in diameter and 90

feet in length, the pipes, or struts, brace-up the sheet piling that forms the canal walls. The struts, which extend across the width of the canal, are placed every 18 feet and are attached to an I-beam welded to the wall

of sheet piling. This I-beam, or waler, runs horizontally along the sheet piling and parallel to the bottom of the canal. In this position, the struts are able to absorb the pressure the canal's banks put on the sheet piling and keep the piling securely in place.◆



Struts spanning the canal and supporting the sheet piling run up to 90 feet in length.



Struts are attached to I-beams called walers.